



Genexis Pure

Pure-Series

Full speed, seamless connectivity

The Pure residential gateway is ready to provide a reliable and stable WiFi connection to all of your wireless devices at home.

Being the core of your complete In-Home network, Pure supports advanced WiFi features, such as band steering, 802.11 k,v,r roaming and airtime fairness.

New, open industry standards such as WPA3 and Easy Mesh™ will be incorporated in the Pure, making it one of the most innovative gateways to date.

Key features

- High-speed gateway with 4 managed Gigabit Ethernet ports
- WLAN Access Point (2.4GHz 11/b/g/n & 5.0GHz 11a/n/ac concurrent dual band)
- xDSL v35b support (Annex A and Annex B)
- Two telephony ports (SIP-based VoIP)
- Management via TR-069, CLI, DHCP/TFTP/SNMP and/or Cloud
- Operator controlled, end-user friendly HTTP(S) GUI
- IPv4 and IPv6 support
- Advanced WiFi technology with band steering, airtime fairness, 802.11 k,v,r.

Advanced software platform: iopsysWRT

iopsysWrt provides a full enterprise solution with security enhancements and feature rich services such as local and remote management, enhanced WiFi experience, VoIP. iopsysWrt is based on the best from the open source community combined with knowledge gained from building innovative gateway solutions for more than a decade.

With iopsysWRT, the service provider benefits from a proven software platform and is able to add modules based on openWRT standards independently at the same time. The Pure can be connected to cloud solutions such as CloudSight, making the life of the ISPs helpdesk easier, while supporting WiFi analytics and self-help via a mobile APP as well.



Product features and specifications

Genesis Pure-Series

General specifications

Dimensions (H x W x D)	38x156x232 mm
Weight approx.	420 g*
Power supply voltage	12 Vdc ± 10%
Power consumption	typ. 18W*
Operating temperature	0 - 40 °C*
Storage temperature	0 - 70 °C*

Fiber interface

Tx wavelength	1310 nm
Rx wavelength	1490/1550 nm
Optical output range	-9 ... -3 dBm
Optical input range	-23 ... -3 dBm
Maximum distance	20 km
Single mode fiber (ITU-T G.652)	
SC/APC connector compliant with	100BASE-BX-U
Auto sensing	1 Gb/s and 100 Mb/s

xDSL interface

Intel® VRX518 chipset
Support for xDSL v35b / Annex A and B

LAN interface

4x 1000/100/10Base-T RJ45 interfaces

Buttons and USB

Power button
Reset button (recessed)
WPS/Pair button
1x USB 2.0

Routing

Line-speed (1000 Mbps) routing performance for packets > 256 byte.
DHCP server / DNS proxy
NAT / PAT
UPnP
VPN pass-through
SPI Firewall
DMZ and port forwarding/translation
IGMP(v2/v3) snooping and proxy
RTSP proxy for Video on Demand
Static IPv4 Routing

Voice features

SIP based Voice-over-IP
G.711 A-law / μ -law codec
G.729 codec
5 REN support
Line Echo Cancellation
DTMF: In-band, RFC2833, SIP-Info
Class 5 features

Protocols

IPv4/IPv6 dual stack concurrent
DHCP(v4/v6) client
PPPoE client

WiFi interface

Intel® GRX350-1200 SoC; WAV513 (2,4GHz), WAV524 (5GHz)
IEEE 802.11b/g/n, 2.4GHz 3x3
IEEE 802.11a/n/ac, 5.0 GHz 4x4 (internal antennas)

Software and WiFi Features

iopsysWRT open source software
Operator and end-user GUI/APP
Band steering
Airtime fairness
Guest WiFi
Seamless roaming (802.11 k,v,r)
Auto channel/bandwidth selection
Easy Mesh^{tm**}
Automatic channel selection
WEP, WPA, WPA2, WPA3**
Multiple SSIDs supported

Management and control

TR-069, TR-098/TR-181, TR-104
SNMP, DHCP / TFTP, PCLTI, IUP and CLI

Status LEDs

Status
Uplink status(Fiber/DSL)
Internet
Telephony status
WiFi status



* Subject to change

** Will be supported when available

Genesis Pure-Series product models

Model	Uplink type	LAN ports (Mbps)		VoIP	USB 2.0	WLAN 3x3 2.4 GHz	WLAN 4x4 5.0 GHz
Pure-ED500A	Ethernet + xDSL (Annex A)	4x	1000/100/10	2x	1x	11n	11ac
Pure-ED500B	Ethernet + xDSL (Annex B)	4x	1000/100/10	2x	1x	11n	11ac
Pure-F500	Fiber uplink 100/1000 TX1310/1550	4x	1000/100/10	2x	1x	11n	11ac
Pure-F501	Fiber uplink 100/1000M TX1310/1490	4x	1000/100/10	2x	1x	11n	11ac



Product features and specifications

Genesis Pure-Series

This document aim to describe the main technical details for Pure ED500 product. Please note that not all features or functions are added to this document.

Main components

DDR RAM	256 Mbyte
NAND Flash	128 Mbyte
CPU	Intel GRX350
xDSL	Intel VRX518
WIFI 2.4GHz	Intel WAV513
WIFI 5GHz	Intel WAV524

xDSL – VRX518

The VRX518 is a low power 1-channel multi-standard VDSL2/ADSL2(2+) system that incorporates a digital front-end, an analog front-end and a line driver designed for remote terminal Digital Subscriber Line (DSL) applications.

Supported standards and features

- All VDSL2 (G.993.21) , ADSL2+ (G.992.5), ADSL2 (G.992.3) and ADSL full-rate (G.992.1)
- Supports retransmission (G.998.4)
- Support of Vector (G.993.5)
- Support of G.Bond (G.998.2)
- High performance VDSL2 supports profile up to 35b, 30a, 17a, 12 x, 8x and ADSL2+with on-chip
- Interleaver/Retransmission Memory for Annex-Q
- Support of simultaneous Re transmission and Vectoring
- Support of ToD

WIFI 5GHz – WAV524

The WAV524 provide advanced 4x4 802.11a/n/ac in the 5150MHz-5950 MHz frequency band. Advanced offloading accelerator enables high throughput, low latency with minimal CPU load impact on host processor GRX350.

Supported standards and features

- IEEE802.11 a/n/ac compliant
- IEEE 802.11k
- IEEE 802.11v
- 4 Spatial streams @ 20,40 or 80 MHz bandwidth
- 4 TX/RX antennas (4x4)
- Multi User MIMO
- Implicit / Explicit beam forming for any client
- Advanced QoS
- OFDM Modulation up to QAM-256, LDPC, STBC RX, STBC TX
- Auto channel selection
- Offloading/accelerator
- PHY Rates
 - 802.11a up to 54 Mbit/s
 - 802.11n up to 600 Mbit/s
 - 802.11ac up to 1733 Mbit/s
- Power consumption follow EU COC

WIFI 2.4GHz – WAV513

Supported standards and features

- IEEE 802.11 b/g/n compliant
- 3 Spatial streams @ 20 or 40 MHz bandwidth
- 3 TX/RX antennas (3x3)
- Multi User MIMO
- Implicit beam forming
- Advanced QoS
- Auto channel selection
- Offloading/accelerator
- Power consumption follow EU COC